

II. RESPONSE TO OFFICE ACTION

Reconsideration of the claims in light of the above amendments and the following remarks is respectfully requested. The Examiner's comments from the Office Action are reprinted below in 10-point bold type and are followed by Assignee's remarks.

A. Claim Objections

Claims 2 and 30 are objected to because of the following informalities: The recitation "the circular cross section" in claim 2, line 2 should be changed to "the non-circular cross section". Claims 10 and 11 depend from claim 2 and are likewise objected to. The recitation "the step of proving" in claim 30, line 1 should be changed to "the step of providing". Claims 31 and 33-37 depend from claim 30 and are likewise objected to. Appropriate correction is required.

Claims 2 and 30 have been amended address the informalities unrelated to patentability.

B. Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 4 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Hernandez et al., US 2004/0000407. Regarding claims 4 and 5, Hernandez et al. discloses a mandrel (16), a packing element inherently included in the completion in figure 5, a flapper valve (14), tab (28), recess (31), spring (not shown, 0019), hinge (24) and a curved shape providing adaptation precluding relative rotation between it and the mandrel.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action: A persons shall be entitled to a patent unless- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 39 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Bourne, Jr., U.S. 3,094,170.

Regarding claims 39 and 40, Bourne Jr. discloses a hollow mandrel (38), a packing means (44,46), a valve (62) engaging the mandrel (at 60) such that relative rotation is precluded to facilitate removal (col 6, lines 17-33), a central member (72) having a selective releasing means (84) and an anchoring means (18).

Without acquiescing to the characterization of the prior art or to the application of that art to the pending claims, Assignee has amended claim 4, adding the limitation of the flapper being non-metallic material, found in allowable claim 10. As such, it is believed claim 4, as amended, is in condition for allowance. Further, claim 5, which is dependent on claim 4, is also believed to be in condition for allowance.

Regarding the rejection of claims 39 and 40, Assignee respectfully traverses the rejection based on Bourne. Bourne discloses a conventional safety valve having a flapper, and a flow tube (72) operable to open the flapper. A spring (84) is adapted to bias the flow tube upwardly:

As stated in Bourne at column 5, last paragraph, continued on column 6:

In the event the pressure of the control fluid should be decreased below a predetermined minimum for any reason, such as damage to the conduit 98 or to the entire structure around the wellhead 18, the force acting in a downward direction on the upwardly facing shoulder 76 of the sleeve 72 will be reduced. When this force on the upwardly facing shoulder 76 is reduced to below the force provided by the spring 84, the spring 84 raises the sleeve 72 in the housing 38 until the shoulder 76 contacts the downwardly facing shoulder 8 in the housing 38. As the lower end 70 of sleeve 72 is raised above the flapper valve 62, the spring 68 pivots the valve 62 seats on the lower end 70 of the sleeve 72. It may also be noted that well fluid present in the housing 38 below the flapper valve 62 has access to the enlarged chamber 34 through the ports 48 to balance the pressure forces on the flapper valve 62 and allow pivoting the valve by the spring 68. When the valve 62 extends any appreciable distance into the housing 38, the upwardly flowing well fluids will create a pressure on the valve 62 and quickly close the valve 62 on the lower end 70 of the sleeve 72. With the flapper valve 62 in a close position, as indicated by dashed lines in Fig 3., well fluids will be prevented from flowing on upwardly through the sleeve.

See also Fig. 2.

Thus the spring 84 is not the claimed "selective releasing means" which, upon actuation, would release the central member from the downhole tool; rather, spring 84 could be considered a biasing means, as discussed above, to bias the sleeve 72 upwardly.

However, claim 39 describes a "central member having selective releasing means." In embodiments of the present invention, the central member is selectively releasable from the apparatus. See paragraphs [0204] – [00207]. In other words, once the release means or mechanism, such as shear rings, adjustable spring-loaded detent pins, or rupture disks, or shear screws – are selectively actuated, the central member falls down hole. That is, the central member is released from the subterranean apparatus. As such, it is believed that claim 39, and claim 40 dependent therefrom, are in condition for allowance.

Further, claim 39 includes the limitation of the valve having means for engaging the mandrel such that rotation between the mandrel and the valve is precluded when the valve is in a closed position." No such non-circular cross section of the hollow mandrel 38, or a tab on the flapper adapted to engage a recessing in the mandrel, is provided in Bourne. The office action mentioned item 60. However, the arm is simply the device to which the valve is hingedly attached. See Bourne, col., 4, first full paragraph: "A suitable flapper valve 62 is pivotally secured to the lower end of the arm 60 by means of a pin 64 for pivoting movement of the valve 62 in and out of the inner housing, as illustrated by the dashed lines and arrows in FIG. 2."

As this limitation is further not disclosed, suggested, or taught in Bourne, it is believed claims 39 and 40 are in condition for allowance for this additional reason.

C. Allowable Subject Matter

Claims 1.6-9; 12-15, 20-29, 31 and 32 are allowed.

Claims 2, 10, 11, 30, 31 and 33-37 would be allowable if rewritten to overcome the objection set forth in this Office action.

In light of the above amendments, it is believed that each of these claims is in condition for allowance.

D. Conclusion

The Examiner is invited to contact the undersigned attorney at 713.787.1478 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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Gregg A. Duffey
Reg. No. 42,501
HOWREY LLP
1111 Louisiana, 25th Floor
Houston, Texas 77002-5242
Tel. 713.787.1478
Fax 713.787.1440
Attorney for Assignee
BJ SERVICES COMPANY